

Addressing the Unique Needs of Older Adults with Diabetes

National Diabetes Education Program Quarterly Webinar Series

Thursday, May 16, 2013

2-3 PM ET



National Diabetes Education Program

A program of the National Institutes of Health and the Centers for Disease Control and Prevention





Objectives

- Discuss the prevalence of diabetes among older adults
- Provide an overview of age-related factors that affect diabetes management in the older adult
- Discuss ways to help older adults with diabetes manage their disease and reduce their risk for complications
- Introduce tools and resources that can be used to educate older adults with diabetes and their caregivers about diabetes management



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Presenters

Linda Haas, Ph.C., R.N., C.D.E.

Diabetes Consultant

Janet L. Miller, M.P.A.

Office of Communications

Centers for Medicare & Medicaid Services

Joanne Gallivan, M.S., R.D.

Director, National Diabetes Education Program

National Institutes of Health



Program Overview

- US Department of Health and Human Services program jointly sponsored by:
 - National Institutes of Health
 - Centers for Disease Control and Prevention
 - With over 200 public and private partners
- Seeks to reduce the burden of diabetes in the US by:
 - facilitating adoption of proven approaches to prevent or delay the onset and progression of diabetes and its complications



Webinar Logistics

- All lines are muted
- Two ways to ask questions during Q&A period:
 1. Type your question into the chat section and we will read your question aloud
 2. Click the “raise hand” icon and we will call your name and unmute your line allowing you to ask your question

Addressing the Unique Needs of Older Adults with Diabetes

Linda Haas, Ph.C., R.N., C.D.E.

Diabetes Consultant



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of Health





Objectives

- Discuss the epidemiology of diabetes and the older adult.
- Identify four age related factors that can affect the diabetes management of older adults
- Recognize three risk factors for hypoglycemia in the older adult
- State the recommendations from the Consensus Report on Diabetes Care in Older Adults



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What is old?

- Large and heterogeneous age span
 - Young old: 65-74
 - Old: 75-84
 - Old old >85

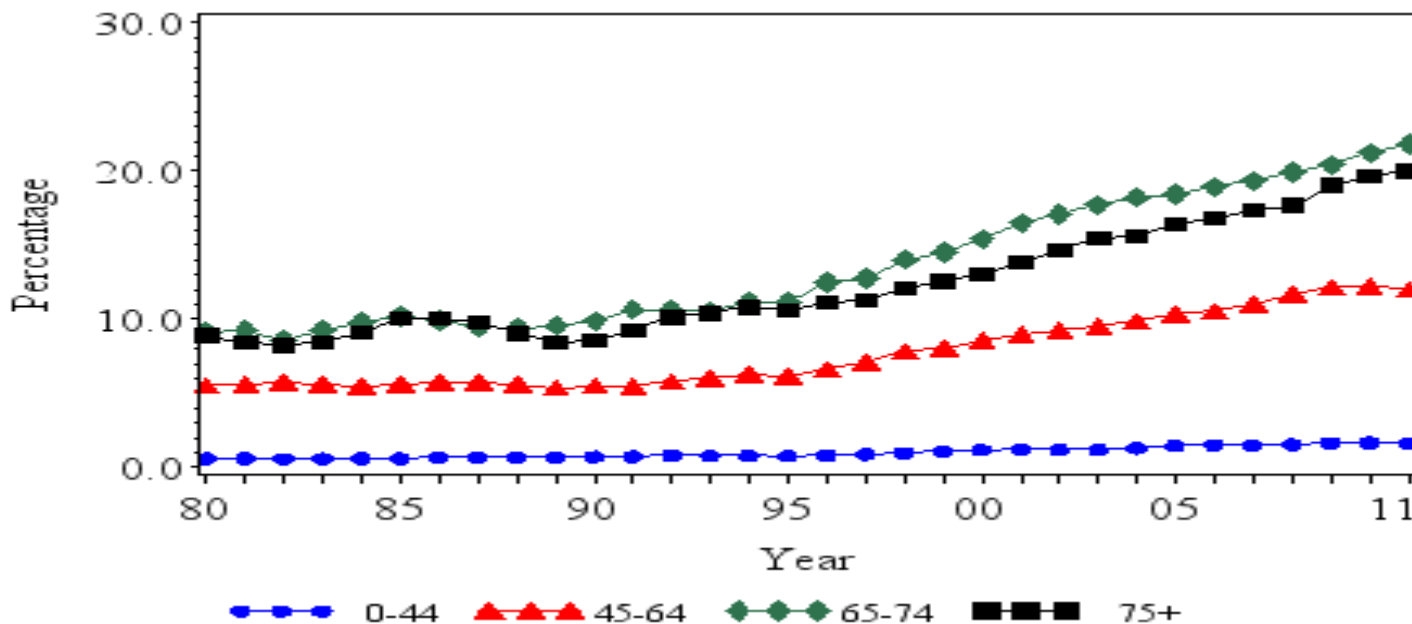




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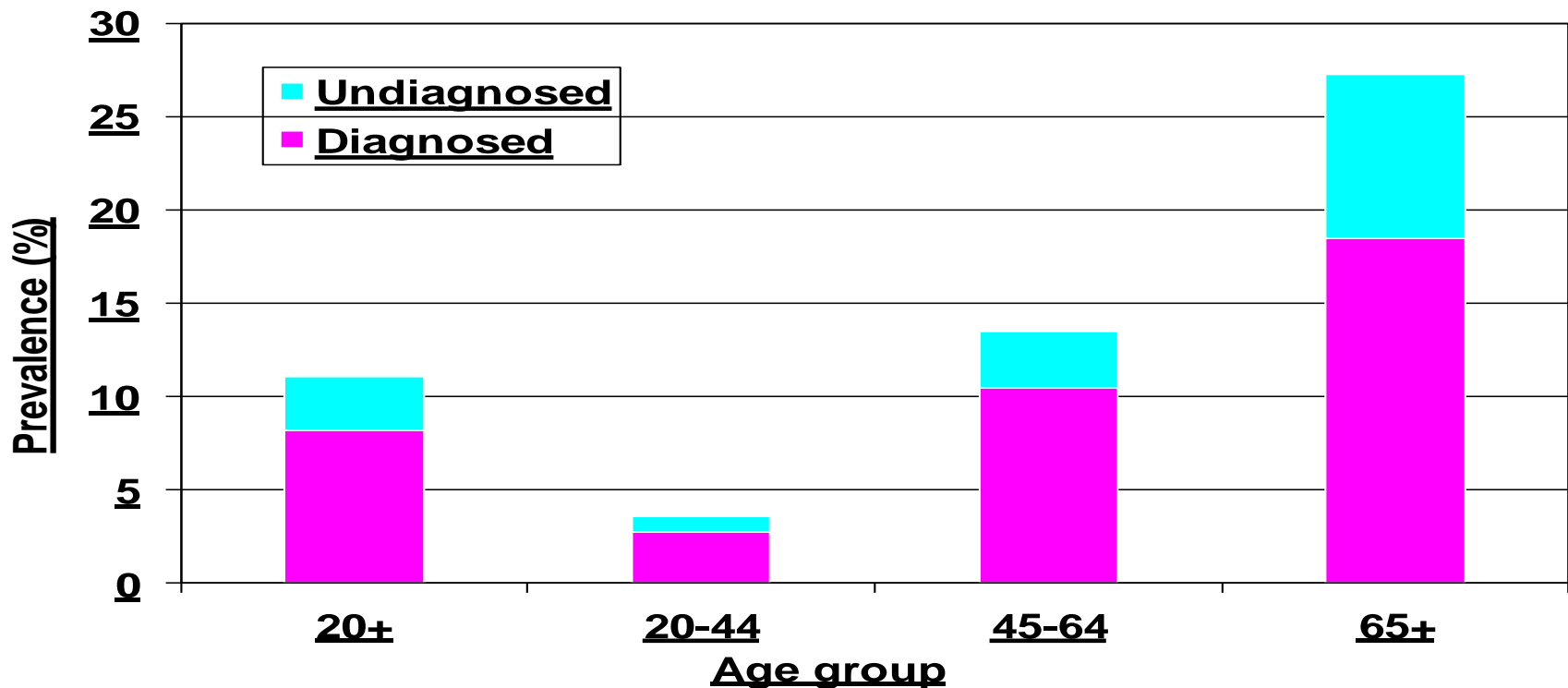
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Percentage of Civilian, Non-institutionalized Population with Diagnosed Diabetes, by Age, U.S. 1980–2011



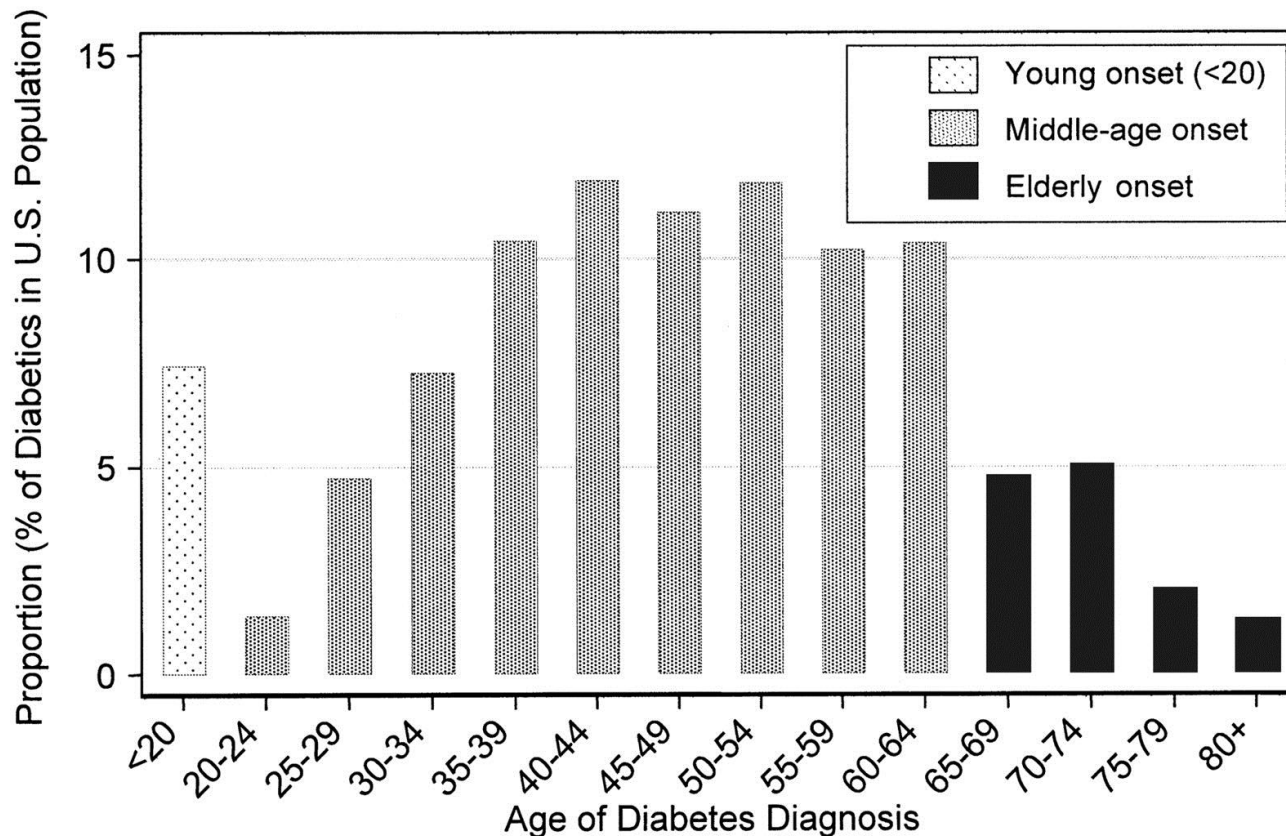


Prevalence of Total Diabetes (Diagnosed Diabetes and Undiagnosed) U.S. Adult Population, Age ≥ 20 , 2005-2008





Distribution of reported age at diabetes diagnosis in U.S. 1999-2002





Prevalence and Incidence of Diabetes in the Older Population

- Adult diabetes prevalence doubles with every 15 years of age until age 65.
- Prevalence in older adults has doubled in the past 15 years.
- Incidence and prevalence is increasing most rapidly in absolute terms among older adults.
- The increasing incidence and detection, decreasing mortality, and aging of the baby boomers are expected to cause large increases in diabetes prevalence over the next 20 years.



Percentage of Diabetes Costs of Adults ≥65 years of age, 2012

- Hospital inpt days, 63%
- Nursing home/residential care days, 80%
- Office visits, 59%
- ER visits, 43%
- Hospital outpt visits, 48%
- Home health visits, 47%
- Medication prescriptions, 60%



Prediabetes in the U.S.

- **78 million** adults aged 20 and older have **prediabetes**
- Prediabetes raises the risk for type 2 diabetes and cardiovascular disease

National Diabetes Fact Sheet, CDC, 2011.

<http://www.cdc.gov/diabetes/pubs/factsheet11.htm>

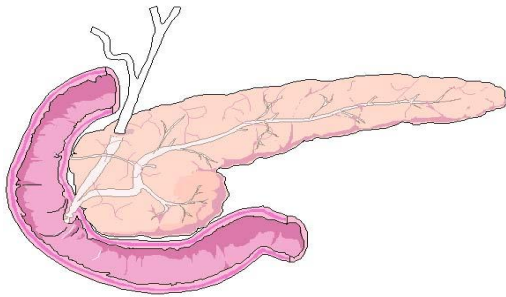


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Type 2 Diabetes in Aging

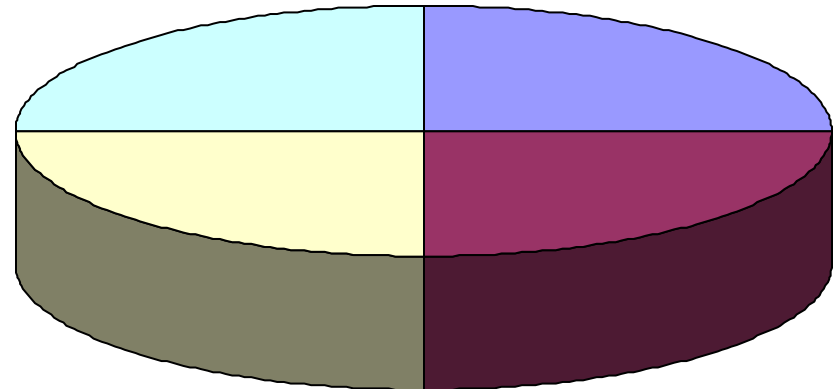
Beta Cell Failure



Insulin Resistance

Low Physical Activity

Sarcopenia



Decreased
Insulin Action

Visceral
Adiposity



Geriatric Syndromes

- Urinary incontinence
- Persistent pain
- Cognitive impairment
- Injurious Falls
- Depression
- Polypharmacy



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Age-Related Factors That May Affect Diabetes Control

- Altered senses
- Difficulties in preparing/eating food
- Decreased mobility/exercise
- Altered renal/hepatic function
- Altered circulation
- Co-morbidities
- Polypharmacy
- Social changes





Frailty in the Elderly

- **Three or more of the following:**
 - Muscle weakness
 - Slow walking speed
 - Exhaustion
 - Low physical activity levels
 - Unintentional weight loss



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Common Comorbidities In Older Adults: Diseases and Geriatric Conditions

HRS, representative of 35 million people ≥ 65 , 2004

Index Condition (%)	Weighted Prevalence (%) of Other Conditions Among Respondents Having Index Condition						
	CAD	CHF	Diabetes	UI	Falls	≥ 1 Other	≥ 2 Other
CAD (8.7)		17%	29%	29%	34%	67%	30%
CHF (4.8)	58%		37%	37%	43%	87%	56%
Diabetes (19.4)	24%	9%		28%	29%	57%	23%
UI (25.0)	19%	7%	22%		37%	58%	20%
Falls (23.2)	23%	9%	24%	39%		64%	23%

Lee et al, JAGS 2009;57;511



Functional Capacity

- **Physical and cognitive abilities required to maintain independence**
 - Activities of daily living (ADL)
 - Instrumental activities of daily living (IADL)
 - Psychological
 - Cognitive and affective
 - Social
 - Social interactions, subjective well-being and coping, person-environment fit



Age-related Vision Changes

- Deterioration in depth and distance perception
- Dryness, irritation
- Floaters – lumps of collagen in vitreous humor
- Sensitivity to glare
- Need for brighter light



Visual Impairment (VIP)

- Associated with decreased functional capacity and mortality
- 3 fold increase in mobility limitations, ADLs and physical capacity
- Most causes of visual impairment are preventable or treatable
- Screening and treatment is critical
 - 1-800-222-EYES (Eye Care America)



Age-Related Hearing Changes

- 24% 65-74 years
- 39% 75+
- **Impact of hearing loss**
 - limits social interaction
 - limits ability to receive and interpret information
 - limits independence
 - affects personal safety



Psychosocial Consequences of Hearing Loss

- Isolation
- Depression
- Embarrassment
- Fatigue
- Irritability
- Tension
- Avoidance
- Negativism



Falls

- A major cause of morbidity and mortality
- Women with diabetes fall more than women without diabetes
- Several interventions can prevent falls
 - Strength training, endurance training and combination, all decrease falls without change in gait or balance
 - Community based moderate group exercise led to 40% fewer falls
 - Tai chi exercise



Nutrition Screening Initiative: The DETERMINE Checklist

- Disease(s)
- Eating poorly
- Tooth loss and mouth pain
- Economic hardship
- Reduced social contact
- Multiple medications
- Involuntary weight loss or gain
- Need for assistance in self-care
- Elder years (> age 80)



Activity: Age-related Changes



- Max breathing capacity falls 40% by age 80
- MHR declines 25% from 20-70 years
- Bone loss post menopause, age 60 in men
- Decreased joint mobility
- Hand grip strength declines 45% by age 75
- Muscle mass declines



Being Active

- Activity programs should address:
 - Aerobic capacity
 - Strength
 - Balance
 - Flexibility



Being Active

- Facilitating Activity for Older Adults
- Supervised group exercise
 - overcomes fears
 - variety of activities
 - easy access
- Community resources
 - Arthritis Foundation (800# in phone book)
 - senior centers (e.g. Silver Sneakers)
 - Tai chi
 - YMCAs



Increased Activity: Cautions

- **Advanced age:**
 - Decreased speed, balance, coordination
 - Decreased sense of pressure
 - Heart rate slows, reduced blood flow
 - Loss of muscle elasticity, mass
 - Arthritis and other co-morbidities
- **Diabetes:**
 - Neuropathies
 - Cardiovascular disease



Trends and Disparities in U.S. Emergency Department Visits for Hypoglycemia, 1993–2005

Table 1—Emergency department visits for hypoglycemia according to patient and hospital characteristics, 1993–2005

	n	Estimated total number of cases (95% CI)	Rate per 1,000 of the diabetic population (95% CI)	Rate per 1,000 emergency department visits (95% CI)
Overall	1,303	4,960 (4,460–5,460)	34 (30–37)	3.7 (3.4–4.1)
Years				
1993–1995	215	773 (578–969)	30 (23–38)	2.8 (2.1–3.5)
1996–1997	152	672 (524–820)	43 (32–54)	3.6 (2.8–4.4)
1998–1999	141	740 (543–937)	26 (19–33)	3.6 (2.7–4.6)
2000–2001	222	897 (663–1,130)	40 (30–50)	4.2 (3.1–5.2)
2002–2003	262	776 (633–920)	32 (24–39)	3.5 (2.8–4.1)
2004–2005	311	1,100 (864–1,340)	33 (26–39)	4.9 (3.8–5.9)
Age (years)				
<45	401	1,550 (1,330–1,780)	62 (53–71)	1.7 (1.5–2.0)
0–19	78	359 (229–489)	—	0.9 (0.6–1.2)
20–44	323	1,200 (1,020–1,370)	—	2.3 (2.0–2.7)
45–64	364	1,230 (1,060–1,400)	19 (17–22)	5.5 (4.7–6.2)
65–74	219	845 (698–991)	25 (20–29)	10 (8.5–12)
≥75	319	1,330 (1,090–1,580)	54 (44–64)	12 (9.4–14)

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Case Study: JO

- 74-year-old Hispanic female
- Admitted several times recently to the hospital for acute delirium
- Medical problems:
 - Degenerative joint disease
 - Osteoporosis
- Surgical history:
 - Hysterectomy



Case Study: JO

- Personal history: smoker 40 pack years
- Family history: mother had diabetes father had cerebral vascular accident
- Social history: Lives at home
- Recent medical problems: temporal arteritis
- Medications: acetaminophen, glyburide, calcium, vitamin D, raloxifene



Case Study: JO

- HPI: 3 hospital admissions in last month for altered mental status r/t hypoglycemia; each time treated in hospital with IV dextrose and sent home after improvement in mentation
- Detailed history revealed that she was diagnosed with diabetes about 3 months prior. It was thought to be steroid induced which was started for temporal arteritis 6 months prior.



Case Study: JO

- After 5 months, steroids were discontinued but glyburide was not
- Because of language barriers, detailed history was not taken.



Case Study: JO

- **Follow up:**
 - 6 months after discontinuing glyburide, no further hypoglycemic episodes
- **Best practices message:**
 - Need for detailed history and frequent reassessment of medications to minimize unnecessary medications (polypharmacy)



Risk Factors For Insulin-Induced Hypoglycemia in Elderly Patients With Diabetes

- **Insulin administration errors**
 - Excessive insulin dose
 - Improper timing of insulin relative to timing of food intake
 - Injection of wrong insulin type (e.g. rapid-acting in place of long-acting insulin)
- **Decreased glucose influx**
 - Missed meals, fasting
 - Gastroparesis with delayed carbohydrate absorption
- **Increased insulin sensitivity**
 - Weight loss
 - Intensive insulin therapy
 - Increased exercise/activity

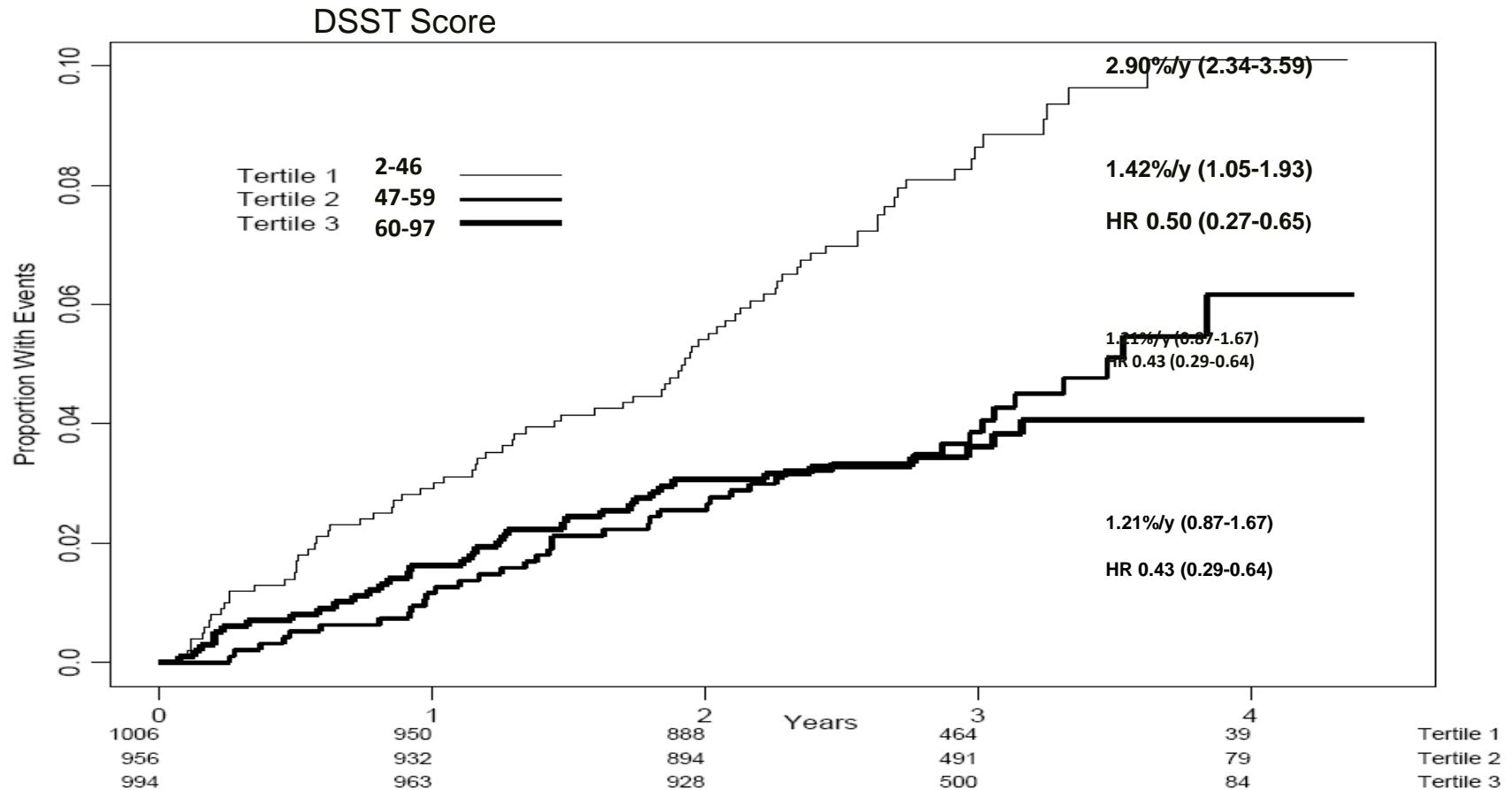


Risk Factors For Insulin-Induced Hypoglycemia in Elderly Patients With Diabetes

- Decreased awareness of hypoglycemia symptoms
- Delayed insulin clearance, erratic insulin absorption
 - Renal failure
 - Insulin injection in hypertrophic sites
- Decreased endogenous glucose production
 - Severe liver disease
 - Alcohol (ethanol) ingestion
 - Renal disease



Cognitive impairment and high risk for severe hypoglycemia





Signs of Hypoglycemia in the Frail Elderly

- Confusion, disorientation
- Poor concentration and coordination
- Drowsiness
- Weakness
- Altered behavior, aggression
- Falls
- Myocardial infarction
- Seizures
- Stroke
- Coma, death



A Framework for Considering Treatment Goals for Glycemia, Blood Pressure, and Dyslipidemia in Older Adults with Diabetes

- Next slide is a consensus framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes.
- The patient characteristic categories are general concepts. Not every patient will clearly fall into a particular category.
- Consideration of patient/caregiver preferences is an important aspect of treatment individualization.
- Additionally, a patient's health status and preferences may change over time.



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Patient characteristics	Rationale	FBS or Preprandial BS	HS Glucose	A1c	Blood pressure	Lipids
Healthy few co-morbidities, intact cognition and functional status	Longer remaining life expectancy	90-130	90-150	<7.5	140/80	Statin. Unless contraindicated or not tolerated
Complex/intermediate health status, CVD or several chronic illnesses, mild to moderate CI	Intermediate remaining life expectancy, High treatment burden, fall risk, hypoglycemia vulnerability	90-150	100-180	8	140/80	Statin. Unless contraindicated or not tolerated
Very Complex/poor health (LTC) or numerous illnesses or mod-severe CI or 2+ADLs deficits	Limited remaining life expectancy, makes benefit uncertain	100-180	110-200	<8.5	150/90	Consider likelihood of benefit (secondary primary) prevention



A Framework for Considering Treatment Goals for Glycemia, Blood Pressure, and Dyslipidemia in Older Adults with Diabetes

- Co-existing chronic illnesses, conditions serious enough to require medications or lifestyle management and may include arthritis, cancer, CHF, depression, emphysema, falls, hypertension, incontinence, stage 3 or worse CKD, myocardial infarction, and stroke. By multiple we mean at least 3, but many patients may have 5 or more.
- The presence of a single end-stage chronic illness such as stage III-IV CHF or oxygen-dependent lung disease, CKD requiring dialysis, or uncontrolled metastatic cancer may cause significant symptoms or impairment of functional status and significantly reduce life expectancy.
- A1C of 8.5% equates to an estimated average glucose of ~200 mg/dl. Looser glycemic targets than this may expose patients to acute risks from glycosuria, dehydration, hyperglycemic hyperosmolar syndrome, and poor wound healing.



Additional Consensus Recommendations for Care of Older Adults with Diabetes

Screening for, and Prevention of Diabetes

- Screen older adults for prediabetes and diabetes according to ADA recommendations, if the patient will be likely to benefit from identification of the condition/disease and subsequent intervention.
- Implement lifestyle intervention for older adults with prediabetes who are able to participate, and are likely to benefit from prevention of type 2 diabetes.



Additional Consensus Recommendations for Care of Older Adults with Diabetes

Management of Diabetes

- Encourage physical activity, even if not to optimal levels, implement MNT, use simple teaching strategies and community resources, consider patient safety and preferences.
- For DSME/T in older adults, consider sensory deficits, cognitive impairment, and different learning styles, use different teaching strategies, and include caregivers.
- To develop and update an individualized treatment plan, screen older adults periodically for cognitive dysfunction, functional status, and fall risk, using simple tools such as those at <http://www.hospitalmedicine.org/geriresource/toolbox/determine.htm>.



Additional Consensus Recommendations for Care of Older Adults with Diabetes

Pharmacotherapy

- Carefully choose anti-hyperglycemic therapies; consider polypharmacy. Avoid glyburide. Metformin is safe and the preferred initial therapy in many older adults with type 2 diabetes, reduce dose in those with stage 3 CKD and avoid in those with stage 4-5. Assess renal function using eGFR.
- Assess for hypoglycemia regularly by asking patient and caregiver about symptoms or signs; review blood glucose logs. In type 2 pts, hypoglycemia risk is linked more to treatment strategies than to achieved low A1c; e.g. a pt with a low A1c on metformin alone have lower risk of hypoglycemia than a patient with a high A1c on insulin.
- If recurrent or severe hypoglycemia occurs, strongly consider changing therapy and targets.
- Assess the burden of treatment on older adult patients (caregivers), consider patient/caregiver preferences, attempt to reduce treatment complexity.



Additional Consensus Recommendations for Care of Older Adults with Diabetes

Management of Older Adults With Diabetes in Settings Outside the Home

- Glycemic goals for hospitalized older adults with diabetes are usually similar to those for the general population. The use of sliding scale insulin alone for chronic glycemic management is discouraged in inpt settings and LTC facilities.
- Transitions of older adults with diabetes (e.g. from home or LTC facility to hospital, to post-discharge setting) are periods of high risk. Careful medication reconciliation, and written information regarding medication dosing and timing help to minimize risk for hyper and hypoglycemia. Early transition of diabetes care to an outpatient provider is important to modify drug therapy according to changes in clinical status.



Case Study: KJ

- **88-year-old female with DM recent CVA**
 - Returned from hospital with blood sugars in the 400 mg/dL range
 - Receiving both prescribed insulin and sliding-scale insulin as directed
 - Provider concerned about potential infectious causes (UA, CBC, CXR), antipsychotic medication prescribed in hospital



Case Study: KJ

- **Issues to consider:**
 - High blood sugars and consistent need for sliding-scale insulin
 - Obtain hospital records?
 - Carbohydrate load in thickened liquids
 - What is physiology of sliding-scale insulin



Approaches to Maximize the Treatment Benefits

- Vary treatment plans depending on type of DM, concurrent disease and individual needs
- Define BG target ranges and should be realistic and safe
- Dietary needs vary for individuals with DM and dietary changes may be reflected in BG levels
- Educate pt/family about parameters for diabetes medications: timing with meals and activities, identifying BG levels that require immediate provider notification vs BG level patterns that require notification on a more routine basis



Outcome

- No infectious cause identified
- Exercise program initiated
- Antipsychotic discontinued - lack of indication
- Patient passed swallow study – discontinued thickened liquids
- Glucose control improved with reduced carbohydrate intake



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How old
would you be,
if you didn't
know how old
you was?

Satchel Paige



Quick Poll Question

What is the recommended A1C value for an older adult with diabetes?

- a. 6-6.5%
- b. Less than 7%
- c. Less than 8%
- d. Value should be individualized

Medicare and Older Adults with Diabetes

New Programs Will Save Money and Ensure Quality Services
Beginning July 1, 2013

Janet L. Miller, M.P.A.

Office of Communications

Centers for Medicare & Medicaid Services



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Some Changes are Coming

- Beginning July 1, 2013, two important changes are coming to the way Medicare beneficiaries with diabetes access some services and supplies.
- The National Mail-Order Program for diabetic supplies.
- The DMEPOS Competitive Bidding Program is expanding to 91 areas of the country.



National Mail-Order Program for Diabetic Testing Supplies

- People with original Medicare, must use a national mail-order contract supplier for testing supplies delivered to their home.
- Medicare's payment will be the same if you buy your supplies from a store or have them delivered to your home.
- If you need a specific item or brand of supply, your doctor must specify this in writing.
- Contract suppliers can't make you switch from a specific brand of glucose monitors to another.



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National Mail-Order Program for Diabetic Supplies

- Medicare may coordinate payments with other insurance companies.
- Medicare has rules to protect you:
 - Unsolicited calls from suppliers wanting you to switch to them.
 - Offers of free supplies either over the phone or through the mail.



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National Mail-Order Program for Diabetic Testing Supplies

- Need help?
 - Find a National Mail-Order Program Contract Supplier by visiting <http://www.medicare.gov/supplierdirectory/search.html> or calling 1-800-MEDICARE
 - Call your State Health Insurance Assistance Program (SHIP)
- Suspect Fraud?
 - Call 1-800-Medicare or the Fraud Hotline (Inspector General) at 1-800-HHS-TIPS
- Learn more?
 - Download publication #11634 from www.medicare.gov/publications



DMEPOS Competitive Bidding Program

- Currently in 9 areas of the country – will expand to 91 more beginning July 1, 2013
- Makes changes to the amount Medicare pays for certain DME and also to the suppliers that Medicare will pay to supply these items to beneficiaries.
- DMEPOS helps beneficiaries and Medicare save money.
 - Ensures access to quality medical equipment and supplies and services from suppliers you can trust
 - Helps limit fraud and abuse in the Medicare Program.
- For information on areas and DME items included in the program, please go to www.medicare.gov/Publications/Pubs/pdf/11307.pdf
http://www.cms.gov/Outreach-and-Education/Outreach/Partnerships/DMEPOS_Toolkit.html

Diabetes Management Resources for Older Adults

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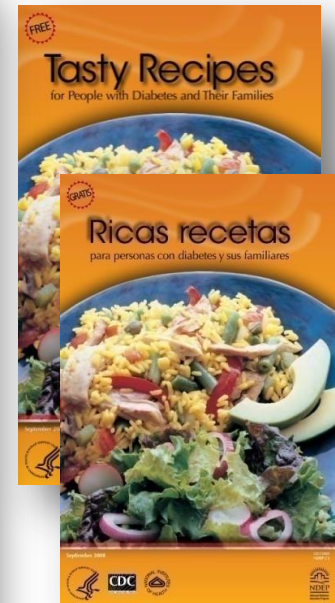
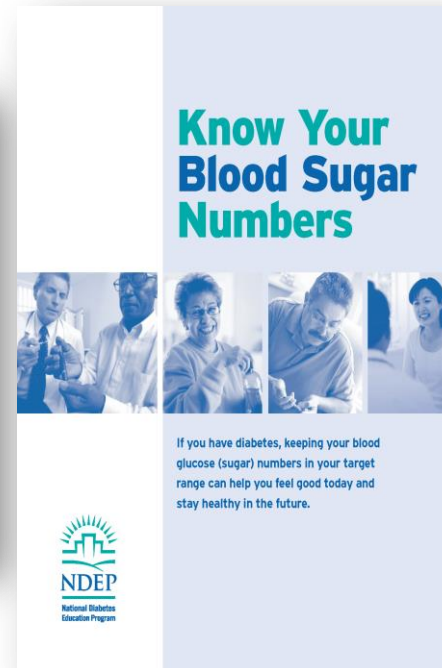
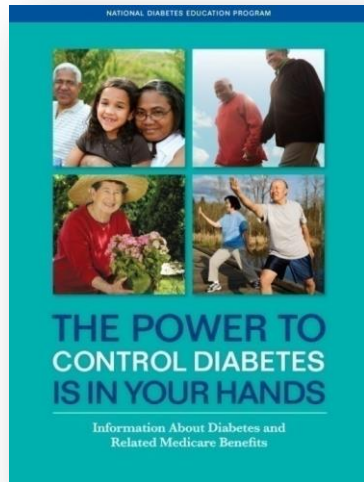




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NDEP Resources for Older Adults Managing Diabetes





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Behavior Change Resources for Older Adults: Diabetes HealthSense

www.YourDiabetesInfo.org/HealthSense

[I Have Diabetes](#) [Am I at Risk?](#) [Health Care Professionals, Businesses & Schools](#) [Partners & Community Organizations](#) [About NDEP](#) [Contact Us](#) [Site Map](#)

Diabetes HealthSense

Resources for living well

[HealthSense Home](#) [Make a Plan](#) [Health Care Professionals](#) [Submit a Resource](#) [About HealthSense](#)

Help Me

I Am A

Person with diabetes

Age

Older adult (60+)

Type of Resource

Select one:

Tracking tools

Printable documents

You are here: [NDEP Home](#) > [Resources](#) > [Diabetes HealthSense](#)

Start Over

1-10 of 53 results

View by: Resource Name (A-Z) **Go**

A Guide to Caring for Yourself When You Have Vision Loss

This guide helps older adults and their family members cope with age-related eye diseases. It includes information on healthy eating, being physically active, monitoring blood glucose, taking medications, coping, and other resources.

[En español](#)

Behavioral Diabetes Institute

The Behavioral Diabetes Institute is an organization dedicated to helping people with diabetes live long, healthy, and happy lives. This website provides an array of evidence-based clinical programs, all designed to help people overcome the emotional and behavioral obstacles to living well with diabetes.

Search HealthSense by title or keyword **Go**

1 | 2 | 3 | [Next >](#) | [View All](#)

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American Foundation for the Blind (AFB)

Behavioral Diabetes Institute (BDI)

Make a Plan

Change begins with just one step. Make a plan to achieve your goals.

Health Care Professionals

Find research articles and resources for facilitating behavior change in your practice.



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National Institute on Aging Resources

www.nia.nih.gov



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“Be active every day with Go4Life!”
Start your own exercise program with **MyGo4Life**.

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FEATURED EXERCISE


Tai Chi
[See Instructions for the exercise](#)
[See All Exercises](#)

 **About Go4Life**
ENDURANCE. STRENGTH. BALANCE. FLEXIBILITY.

Go4Life, an exercise and physical activity campaign from the National Institute on Aging at NIH, is designed to help you fit exercise and physical activity into your daily life. Motivating older adults to become physically active for the first time, return to exercise after a break in



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In This Topic

- [What Is Diabetes?](#)
- [Risk Factors](#)
- [Prevention](#)
- [Signs And Diagnosis](#)
- [Diet And Exercise](#)
- [Medications](#)
- [Self-Monitoring](#)
- [Latest Research](#)
- [Frequently Asked Questions](#)

Diabetes

What is Diabetes?

Too Much Glucose in the Blood

Diabetes means your blood glucose (often called blood sugar) is too high. Your blood always has some glucose in it because your body needs glucose for energy to keep you going. But too much glucose in the blood isn't good for your health.

Glucose comes from the food you eat and is also made in your liver and muscles. Your blood carries the glucose to all of the cells in your body. Insulin is a chemical (a hormone) made by the pancreas. The pancreas releases insulin into the blood. Insulin helps the glucose from food get into your cells.

If your body does not make enough insulin or if the insulin doesn't work the way it should, glucose can't get into your cells. It stays in



[Click image for description](#)

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Webinar Slides and Evaluation

- Webinar Series Webpage
 - <http://ndep.nih.gov/resources/webinars>
- PowerPoint Slides
- Webinar Evaluation
- Certificate of Completion for Webinar Attendees
 - ndep@hagerssharp.com





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Questions and Answers



Thank you!



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www.YourDiabetesInfo.org

1-888-693-NDEP (1-888-693-6337)

TTY: 1-866-569-1162

